

WHAT IS CLAIMED IS:

1. A unit utilizing current to control reciprocation for pushing fluids, comprising:

a chamber having a certain length and two openings at two ends;

a magnet having a certain length, a shape of outer circumference of the magnet corresponding to a shape of inner circumference of the chamber, whereby the magnet is slidably disposed in the chamber;

a coil disposed on outer side of the chamber and connected with a circuit, the circuit providing a variable current direction for the coil for driving the magnet to reciprocally move;

a first inlet and a first outlet disposed at one end of the chamber;

a second inlet and a second outlet disposed at the other end of the chamber;

a first valve disposed between the first inlet, the first outlet and the chamber, the first valve being movable between a first position and a second position, whereby in the first position, the first valve blocks the first inlet without blocking the first outlet, while in the second position, the first valve blocks the first outlet without blocking the first inlet; and

a second valve disposed between the second inlet, the second outlet and the chamber, the second valve being movable between a third position and a

fourth position, whereby in the third position, the second valve blocks the second inlet without blocking the second outlet, while in the fourth position, the second valve blocks the second outlet without blocking the second inlet, when the magnet gets close to the first valve, the first valve being positioned in the first position, while the second valve being positioned in the fourth position, when the magnet gets close to the second valve, the first valve being positioned in the second position, while the second valve being positioned in the third position.

2. The unit utilizing current to control reciprocation for pushing fluids as claimed in claim 1, further comprising a surrounding section fitted around the magnet between the inner face of the chamber and the magnet for contacting with the inner face of the chamber.
3. The unit utilizing current to control reciprocation for pushing fluids as claimed in claim 2, wherein the surrounding section includes two piston rings respectively disposed at two ends of the magnet.
4. The unit utilizing current to control reciprocation for pushing fluids as claimed in claim 1, further comprising a first enclosing member and a second enclosing member, the first enclosing member enclosing the coil, the second enclosing member enclosing the first enclosing member and the chamber.
5. The unit utilizing current to control reciprocation for pushing fluids as claimed in claim 4, wherein the first enclosing member is made of metallic material.
6. The unit utilizing current to control reciprocation for pushing fluids as claimed in

claim 4, wherein the second enclosing member is made of nonmetallic material.

7. The unit utilizing current to control reciprocation for pushing fluids as claimed in claim 4, wherein the second enclosing member is made of metallic material.
8. The unit utilizing current to control reciprocation for pushing fluids as claimed in claim 4, wherein the second enclosing member is a sleeve made of copper material.
9. The unit utilizing current to control reciprocation for pushing fluids as claimed in claim 6, further comprising a coating coated on the second enclosing member, the coating being a metal coating.
10. The unit utilizing current to control reciprocation for pushing fluids as claimed in claim 7, further comprising a coating coated on the second enclosing member, the coating being a nonmetallic coating.
11. The unit utilizing current to control reciprocation for pushing fluids as claimed in claim 9, wherein the coating is a nickel coating.
12. The unit utilizing current to control reciprocation for pushing fluids as claimed in claim 1, further comprising:
 - an outgoing connecting section of a pipeline and an incoming connecting section of a pipeline;
 - a first communicating section for communicating the first inlet and the

outgoing connecting section of the pipeline;

a second communicating section for communicating the second inlet and the outgoing connecting section of the pipeline;

a third communicating section for communicating the second outlet and the incoming connecting section of the pipeline; and

a fourth communicating section for communicating the first outlet and the incoming connecting section of the pipeline.

13. The unit utilizing current to control reciprocation for pushing fluids as claimed in claim 12, further comprising a surrounding section fitted around the magnet between the inner face of the chamber and the magnet for contacting with the inner face of the chamber.
14. The unit utilizing current to control reciprocation for pushing fluids as claimed in claim 13, wherein the surrounding section includes two piston rings respectively disposed at two ends of the magnet.
15. The unit utilizing current to control reciprocation for pushing fluids as claimed in claim 12, further comprising a first enclosing member and a second enclosing member, the first enclosing member enclosing the coil, the second enclosing member enclosing the first enclosing member and the chamber.
16. The unit utilizing current to control reciprocation for pushing fluids as claimed in claim 15, wherein the first enclosing member is made of metallic material.

17. The unit utilizing current to control reciprocation for pushing fluids as claimed in claim 15, wherein the second enclosing member is made of nonmetallic material.
18. The unit utilizing current to control reciprocation for pushing fluids as claimed in claim 15, wherein the second enclosing member is made of metallic material.
19. The unit utilizing current to control reciprocation for pushing fluids as claimed in claim 15, wherein the second enclosing member is a sleeve made of copper material.
20. The unit utilizing current to control reciprocation for pushing fluids as claimed in claim 17, further comprising a coating coated on the second enclosing member, the coating being a metal coating.
21. The unit utilizing current to control reciprocation for pushing fluids as claimed in claim 18, further comprising a coating coated on the second enclosing member, the coating being a nonmetallic coating.
22. The unit utilizing current to control reciprocation for pushing fluids as claimed in claim 20, wherein the coating is a nickel coating.